



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,526	03/23/2004	Reinhold Hopfensperger	4191-000001	3433
27572	7590	04/20/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			NGUYEN, NINH H	
			ART UNIT	PAPER NUMBER
			3745	

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding:

e

Office Action Summary	Application No. 10/807,526	Applicant(s) HOPFENSBERGER, REINHOLD	
	Examiner Ninh H. Nguyen	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-10 and 19 is/are rejected.
- 7) ☒ Claim(s) 3,5,11-18,20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1. ☒ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/18/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 6, 9, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Buchi (2,995,293).

Buchi discloses a blower (Figs. 3, 4) comprising a casing 5 and in it an axially arranged impeller 1 wherein the casing has an axially placed inlet (Fig. 3), and exhaust, a bottom section (see reproduced Fig. 3 at the end of this Office Action) with a bottom reference surface and a spiral-shaped compression space 9 located radially around the impeller that extends to the exhaust and which expands both in a radial as well as an axial direction towards the exhaust (Fig. 3); and the impeller has a cover disk 4 facing the inlet and a supporting disk; wherein an axial and radial extension on the casing is formed over at least 108° of the spiral circumference (Fig. 3); and a hollow cylindrical cup-like section is recessed (see reproduced Fig. 3) in the bottom section in an axial direction extending beyond the bottom reference surface in which the impeller

Art Unit: 3745

is placed in such a way that an inner side of the supporting disk of the impeller is substantially flush with the bottom reference surface;

wherein the compression space expands in an axial direction beyond the bottom reference surface (Fig. 3);

wherein the wheel has blades that have a swept-back outer edge along the wheel's circumference (Fig. 4);

wherein the blades are curved backwards in relation to the wheel's operating direction of rotation (Fig. 4);

wherein at least a part of the blades is curved in an S-shape when observed from a top view and has an outlet angle smaller than 90° (judging from Fig. 4); and

wherein the bottom of the hollow cylindrical cup-shape section has a stepped portion deviating from a straight plane (Fig. 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7, 8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchi in view of Fujita et al. (5,964,576).

Buchi discloses all the limitations except that the outlet angle which forms a tangent at the outer edge of the blade with a tangent on the circumference of the wheel at a point on the

Art Unit: 3745

outer edge that is not smaller than 35° , and the inlet angle which forms a tangent at the inner edge of the blade with a tangent on the circumference of the wheel at a point on the inner edge does not amount to $17-35^\circ$ as claimed.

Fujita teaches a centrifugal impeller (Figs. 13, 14) comprising a plurality of curved blades 2 attached to a base plate, wherein the inlet angle are between $35-85^\circ$ and the outlet angle is larger than 100° to reduce operating noise. Therefore, the blade inlet and blade outlet angles of a centrifugal impeller are consider result effective variables.

Since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make the blower of Buchi with the inlet angle being between $35-85^\circ$ and the outlet angle being less than 35° for the purpose of improving blower performance. In re Boesch, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claim 10, Buchi discloses all the limitations except there are no shorter and longer blades alternate in their arrangement in the wheel as claimed.

Fujita teaches a centrifugal impeller for a fan (Fig. 17) comprising a hub, a plurality of longer blades 2 and a plurality of shorter blades 10 arranged alternately around the circumference of the hub to improve fan performance (col. 6, line 66- col. 7, line 12).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the blower of Buchi with the impeller comprising shorter and longer blades alternate in their arrangement in the wheel for the purpose of improving blower performance as taught by Fujita.

Art Unit: 3745

Allowable Subject Matter

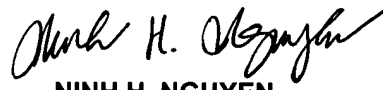
6. Claims 3, 5, 11-18, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).


NINH H. NGUYEN
PRIMARY EXAMINER

Nhn
April 17, 2006

Fig. 3

